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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,440	07/31/2003	Amir Faghri	59309US (30471)	2836
21874	7590	06/26/2006	EXAMINER	
EDWARDS & ANGELL, LLP			MAPLES, JOHN S	
P.O. BOX 55874			ART UNIT	PAPER NUMBER
BOSTON, MA 02205			1745	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,440

Applicant(s)

FAGHRI, AMIR

Examiner

John S. Maples

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 and 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 19, 20 and 23-26 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 19, 20, 23- 26 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. It is noted that the examiner phoned the attorney to request an oral election of a restriction requirement in this application. Upon reconsideration, the restriction requirement has been dropped.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8, 10, 13, 14, 19, 20, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisi et al.-US 2003/0152821 (Lisi) in view of Walsh-US 6,146,779. (Walsh) (New Rejection)

A bipolar interconnection plate 26 for a fuel cell is taught in Figure 2 of Lisi where the same includes fuel and oxidant channels 108 and 112 and includes heat pipes 102 formed in the plurality of lands formed on both surfaces of the bipolar plate-see also paragraphs 0025 through 0035 in Lisi for the disclosure of the same. As seen in Figure 1 of Lisi, the bipolar plates 26 are placed between the fuel cells. The only claimed features not shown by Lisi are the evaporator and the condenser in a sealed body having a working fluid therein that are part of the heat pipe. The patent to Walsh sets forth in the Abstract and in column 8, line 18 through column 9, line 63 along with Figures 11-15 a heat pipe used with a fuel cell to cool the same. The heat pipe in Walsh may include a wick for transferring fluid-see column 8, lines 55-59. To have included in the fuel cell of Lisi, the heat pipe of Walsh would have been obvious to one

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of ordinary skill in this art at the time the invention was made so that the fuel cell would not overheat.

Applicant's arguments have all been considered but are not deemed persuasive because of the above new grounds of rejection.

4. Claims 6, 7, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisi and Walsh as set forth in section 3 above and further in view of both Saito et al.-US 2004/0146771 (Saito) and Tonkovich et al.-US 2003/0152488. (Tonkovich) (New Rejection)

The combination of Lisi and Walsh teach all of the claimed subject matter except for the lands on the two sides of the bipolar plate being in a perpendicular relationship and for the working fluid being a liquid metal. Saito discloses in Figure 1 the lands on both sides of a bipolar plate being perpendicular to one another. To have included in the fuel cell of Lisi/Walsh, the configuration of the lands in Saito would have been obvious so that the different fluids could be directed in different directions across the bipolar plate.

The patent to Tonkovich teaches in paragraph 0090 the use of a liquid metal as a coolant in a fuel cell. It is noted that Lisi provides for known coolants used in a fuel cell-see paragraph 0032. To thus use in the fuel cell of Lisi/Walsh the liquid metal coolant as taught in Tonkovich would have been obvious because of the known high thermal conductance properties of liquid metal.

Applicant's arguments have all been considered but are not deemed persuasive because of the above new grounds of rejection.

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5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-14 and 19-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 19-29 of copending Application No. 10/640,122. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in this art to have incorporated the sealed body as set forth in the present application in the bipolar plate of the copending 10/640,122 because the same would have allowed no fluid to have contacted the electrolyte material in this fuel cell system.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


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The terminal disclaimer filed June 5, 2006 has not been entered because the attorney signing the same is not of record.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOHN S. MAPLES
PRIMARY EXAMINER

JSM/06-22-2006